

CCRMC CHILDHOOD OVERWEIGHT PROGRAM
CHILDREN AGES 2-11
TREATMENT ALGORITHM – INITIAL TWO VISITS

1. Identify children at risk of overweight or overweight

- Measure BMI and graph BMI-for-age on growth chart
- Identify growth patterns correlating with future obesity:
 - BMI-for-age 85-95% (at risk of overweight)
 - Early adiposity rebound
 - Excessive rate of rise in BMI-for-age
 - BMI-for-age > 95% (overweight)
- Consider further work-up, referral for children with short stature, dysmorphic features, developmental delay, goiter
- Complete or schedule well-child exam if due

2. Screen for complications and comorbidities of overweight

- Measure blood pressure and determine if persistently > 95% for age, gender, and height
- Perform physical exam and review of systems looking for signs and symptoms of complications and/or comorbidities (see back)
- Obtain family history of obesity, Type II diabetes, early cardiovascular disease, hypertension, dyslipidemia, gall bladder disease

3. Determine family willingness to make life-style changes

- Identify family's stage of change (see back)
- Brief education and/or negotiation using Have Fun and Be Healthy sheet.
Options: Healthy eating, physical activity, balanced living and fun

4. Complete order sheet, make return appointment for continuing follow-up

BMI < 95%, no risk factors Precontemplation RTC 1 year	BMI < 95%, risk factors RTC 4-6 weeks	BMI > 95% RTC 4-6- weeks
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- Provide educational materials, continue life-style change discussion
- Make appropriate referrals
- Consider obtaining CBC, lipids, LFTs, fasting blood sugar

5. After first two visits, continue to support and follow overweight children every 3-6 months

- Repeat weight and BP every visit
- Calculate BMI every 3-6 months
- Continue providing family with motivation to improve life-styles, education

BMI = Weight (lb) divided by Height (inches) divided by height (inches) x 703

Adiposity rebound: Age at which body mass index increases after its childhood nadir.

Early adiposity rebound: Increasing BMI before 61 months of age.

Correct blood pressure measurement:

Use cuff in which bladder length covers 80-100% of the arm circumference.

Elevated BP must be confirmed on repeated visits before diagnosing hypertension.

ABNORMAL BLOOD PRESSURES FOR CHILDREN AGES 3–11 (95% for age and height)

Pediatrics 114:555-576, 2004

		Boys		Girls	
		50% height	90% height	50% height	90% height
Age 3	Systolic	109	112	107	109
	Diastolic	65	67	67	68
Age 5	Systolic	112	115	110	112
	Diastolic	72	74	72	73
Age 7	Systolic	115	118	113	116
	Diastolic	76	78	75	76
Age 9	Systolic	118	121	117	119
	Diastolic	79	81	77	79
Age 11	Systolic	121	124	121	123
	Diastolic	80	82	79	81

COMPLICATIONS OF OBESITY

Hypertension, hyperlipidemia, sleep apnea, obesity hyperventilation syndrome, slipped capital femoral epiphysis, insulin resistance, poor self-esteem, tibia vara, Type II diabetes, non-alcoholic fatty liver disease, metabolic syndrome (insulin resistance with the presence of obesity, high blood sugar and triglycerides, high blood cholesterol and/or hypertension)

COMORBIDITIES OF OBESITY INCLUDE

Asthma, exercise intolerance, mental health disorders, poor self-esteem, eating disorders. May need to be addressed before intervening re. weight, nutrition.

PHYSICAL FINDINGS, SYMPTOMS ASSOCIATED WITH COMPLICATIONS OF OBESITY

Acanthosis nigricans, nighttime breathing difficulty, daytime somnolence, poor school performance, chronic hip or knee pain, hepatomegaly, abdominal fat

STAGES OF CHANGE

Precontemplation: Not thinking about change
 Contemplation: Weighing benefits and costs of behavior
 Preparation: Experimenting with small changes
 Action: Taking a definitive action to change
 Maintenance: Maintaining new behavior over time

REFERRALS

Consider dietician, health educator, WIC, National School Lunch and Breakfast Program, food stamps, Headstart, local recreation programs, NEW Kids intervention program

LABS

Life-style changes in diet, physical activity, and sedentary activity are recommended first-line therapies for most complications of obesity. The risk of abnormal lipids, liver function tests and fasting glucose levels increase with increasing age, BMI. Consider work-up if persistently elevated BMI despite life-style counseling and/or clinical symptoms, positive family history.